

Fig.11

BIAS POINT OF FIRST COMPARATIVE CASE (No S_{pin} Filter x Normal Pin)

- Controllability becomes bad to bring large H_{pin} to just bias by large H_{cu} (height dependency is large)
- Output drops because no Spin-Filter effect is utilized)

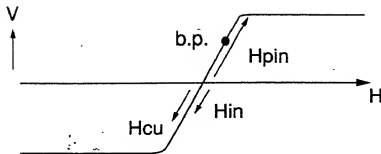
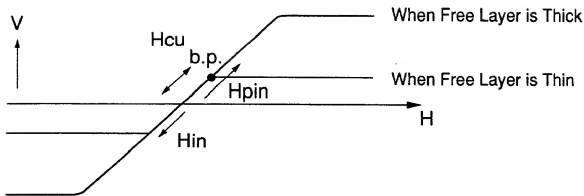


Fig.12

BIAS POINT OF COMPARATIVE CASE (^{2nd} Spin Filter exists x Normal Pin)
(b.p. increases considerably more than 50% because Hpin is large and Hcu is small)



BIAS POINT OF THIRD COMPARATIVE CASE
 (-Bias point is stabilized when free layer is thick just by decreasing Hcu.
 -When free layer is thinned, influence of Hpin is large and b.p. deviates. MR also deteriorates)